

Appl. No.: 10/711,439
Amdt. Dated: 10/6/2006
Reply to Office action of: 06/26/2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (previously presented) A rear lighting system adaptable to an automotive vehicle, of the type comprising:

at least one supporting element (1),
a plurality of light sources (2) assembled on said at least one supporting element (1), and

a control means (3) electrically connected to said light sources (2) to actuate them such that the light sources (2) can emit at least two light intensity levels suitable to carry out at least two corresponding lighting functions, one of said lighting levels consisting of acting as brake lights,

characterized in that said control means (3) comprises detection means for detecting a malfunctioning of at least one of said plurality of light sources (2), and said control means (3) is also adapted to compensate for a corresponding variation in the total light intensity provided by said rear lighting system due to said malfunctioning by actuating or deactivating at least another one of said plurality of light sources (2) and increasing or decreasing the current circulating through at least one functioning light source (2).

Claim 2 (previously presented) A rear lighting system according to claim 1, characterized in that said plurality of light sources (2) are divided into a first group, or main group, and a second group, or spare group, said second group being normally switched off and wherein at least a part of said second group being actuated by said control means (3) thereby compensating for the malfunctioning of any of said first group.

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Claim 3 (previously presented) A rear lighting system according to claim 1, characterized in that all of said plurality of light sources (2) are actuated simultaneously by said control means (3), and when at least one of said plurality of light sources (2) malfunctions, said control means (3) compensates for a corresponding variation in the total light intensity of said rear lighting system due to said malfunctioning by increasing or decreasing the current circulating through all of said plurality of light sources (2).

Claim 4 (previously presented) A rear lighting system according to claim 1, characterized in that another one of said lighting functions consists of acting as anti-fog lights.

Claim 5 (previously presented) A rear lighting system according to claim 4, characterized in that the said plurality of light sources (2) emit with a third light intensity level to carry out a third lighting function consisting of acting as side lamps.

Claim 6 (previously presented) A rear lighting system according to claim 5, characterized in that said plurality of light sources (2) are LEDs.

Claim 7 (previously presented) A rear lighting system according to claim 6, characterized in that said supporting element (1) is a rigid printed circuit, and said LEDs (2) are welded to electro conducting tracks on said rigid printed circuit.

Claim 8 (previously presented) A rear lighting system according to claim 6, characterized in that said control means (3) comprises an electronic system, comprising at least one microprocessor, associated to said detection means.

Claim 9 (previously presented) A rear lighting system according to claim 8, characterized in that it is adapted to be at least partially arranged inside a casing closed with a cover, at least partially transparent, said casing situated in the rear part of a vehicle.

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Claim 10 (previously presented) A rear lighting system according to claim 9, characterized in that the entire system is adapted to be arranged inside said casing.

Claim 11 (previously presented) A rear lighting system according to claim 9, characterized in that a portion of the control means (3) is adapted to be arranged in another part of a vehicle different to that of said casing.

Claim 12 (previously presented) A rear lighting system according to claim 11, characterized in that said electronic system is adapted to be a part of a computer on board said vehicle.

Claim 13 (previously presented) A rear lighting system according to claim 1, characterized in that said electronic system of said control means (3) controls said current circulating through said at least one other light source.

Claim 14 (previously presented) A rear lighting system according to claims 1 or 3, characterized in that said control means (3) is adapted to be suitable to carry out said current circulation though said at least one other light source (2) by Pulse Wave Modulation (PWM) techniques.

Claim 15 (previously presented) A rear lighting system according to claim 1, characterized in that said control means (3) is adapted to actuate at least one of said plurality of light sources (2) to emit a light intensity level suitable for acting as brake lights, corresponding to the detection of a sudden speed reduction of a vehicle not caused by actuating a brake pedal thereof.

Claim 16 (previously presented) A rear lighting system according to claim 15, adapted to detecting said sudden speed reduction of said vehicle by means of an accelerometer.

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Claim 17 (previously presented) A rear lighting system according to claim 15, adapted to detecting said sudden speed reduction of said vehicle by means of an inclinometer detecting a corresponding inclination of the vehicle caused by the sudden speed reduction.

Claim 18 (previously presented) A rear lighting system according to claim 15, characterized in that said control means (3) is adapted to detecting said sudden speed reduction of said vehicle by means of communication with a computer on board said vehicle.

Claim 19 (previously presented) A rear lighting system according to claim 2, characterized in that said control means (3) is adapted to actuate at least one of said plurality of light sources (2) to emit with a light intensity level suitable for acting as anti-fog lights, upon detection of fog in the environment surrounding the vehicle.

Claim 20 (previously presented) A rear lighting system according to claim 19, characterized in that said control means (3) is adapted to detect using at least one fog sensor device.

Claim 21 (previously presented) A rear lighting system according to claim 20, characterized in that said control means (3) is adapted to detect fog using a fog sensor device comprises at least one humidity sensor and one temperature sensor.

Claim 22 (previously presented) A rear lighting system according to claim 6, characterized in that said supporting element (1) is a flexible printed circuit, and said LEDs (2) are welded to electro conducting tracks on said flexible printed circuit.